

In this valuable chapter the author gives the findings of his twin studies in respect of psychoneuroses and delinquency, manic-depressive psychosis and schizophrenia (both fully 'discussed'), involutional psychosis, senile and pre-senile psychoses, epilepsy, certain neurological disorders, and mental deficiency. The interesting observation is made that potential schizophrenics should be discouraged from subjecting themselves to drastic weight-reducing regimes. It seems that attacks may thereby be precipitated.

In view of Dr. Kallmann's undisputed pre-eminence in genetic psychiatry, it is regrettable almost to the point of being tragic that, in his writings, he expresses himself in such a stupefying jargon.

C. P. BLACKER.

Sorsby, A. (Editor). *Clinical Genetics*. London, 1953. Butterworth. Pp. x + 580 + 23. Price 90s.

THERE is undoubtedly a demand for an encyclopaedia of inherited conditions and Professor Sorsby has made a bold attempt to supply one in a single volume. To help him in his task he has enlisted the help of more than thirty contributors from a number of countries. What must have been his first decision was undoubtedly wise. He has not tried to explain the principles of elementary general and human genetics; for these the reader must rely on other works, many of which are available. Instead of an elementary introduction, however, almost inevitably foredoomed to be unsatisfactory, he has hit on a new and excellent plan. The first quarter of the book is devoted to twelve more advanced essays covering just the kind of subjects that should appeal to the medical reader already familiar with the elementary principles of genetics. The essays are very good indeed and give a more general interest to a volume that would otherwise remain largely a work of reference.

The rest of the book deals chapter by chapter with the inherited disorders of the various bodily systems. Some more general material is, however, included, particularly in an excellent chapter by J. M. Tanner on

the inheritance of morphological and physiological traits. If all the host of inherited abnormalities are to be covered in one volume, it is clear that full reviews of the evidence and comprehensive bibliographies are out of the question, as a glance at Cockayne's *Inherited Diseases of the Skin* will show. Such an approach is only possible in a volume dealing with a single system. The most that can be done is to review the evidence much more briefly, expanding where conditions are important, and, more particularly, where the genetics are difficult or obscure. Space can be saved by cutting down where good special books are already available. Much must depend on each contributor's mastery of his subject, for the reader must trust him to provide a balanced summing-up. Those who use the book in connection with genetic prognosis will, however, often want to check the contributor's conclusions by looking at some of the important papers. Others should find it valuable as a starting point to the literature on particular conditions in which they are interested. For both these purposes a carefully selected bibliography of key references is essential. No doubt all these considerations were much in the editor's mind and to a very considerable extent the book, must be judged as successful. There are weaknesses, however. Some chapters are better than others; there is some lack of balance in the allocation of space; contributors occasionally contradict each other. Above all, the bibliographies to the chapters are very uneven; while some are excellent, others are very poor. It is greatly to be hoped that a second edition will soon be demanded, for it should then be possible to profit from the first attempt and make the book not merely good, but very good and useful indeed. It may sound flippant, but it is not so meant, to say that many improvements should be automatically secured now that the contributors have had the chance of reading what their colleagues have written.

The book is very well produced and illustrated and while primarily a work of reference, should have a considerably wider appeal, thanks especially to the happy

notion of including the general essays already mentioned.

J. A. FRASER ROBERTS.

Haldane, J. B. S. *The Biochemistry of Genetics*. London, 1954. Allen and Unwin. Pp. 144. Price 15s.

THIS book, which is based on a course of lectures, consists of nine chapters, dealing with: the elements of genetics; possible primary products of gene action; genes controlling synthesis in fungi; biochemical genetics of yeasts, bacteria and viruses; of higher plants; of higher animals, including man; extranuclear influences on biochemical activity, including training; mutation, and the problem of gene reproduction; and tentative conclusions. There are ten pages of bibliography and a few pages of structural formulæ to give the biologist a little encouragement.

It is certain that he will need encouragement. The reviewer cannot speak for geneticists, but even as a biochemist, for whom it is intended, he found parts of the book extremely difficult to read. This seems to be due mainly to the conciseness of the writing. Professor Haldane is well known for his ability to express things briefly. Applied here to the complex results and conclusions from a variety of experiments this brevity calls for considerable mental agility on the part of the reader. It is not possible to believe that sections of some chapters are verbatim reports of lectures. They must represent notes from which lectures were delivered, otherwise the audience must have been at a loss simultaneously to listen, understand, and take notes of what was being said.

In some passages statements seem to be made just for the sake of completeness. For example, at the beginning of Chapter II the irrelevant statement that an anti-"A" serum exhausted by "B" corpuscles may still agglutinate "A" corpuscles, is followed by "In this way. . . ." Most readers will find themselves going the wrong way at this point. In other places a word or phrase that might help the reader of average ability to get along a little faster is left out.

In short, the author has made no unnecessary concessions to the reader, and so has managed to put into chapters a dozen pages long what might well be extended to three times that length. He has even managed to include a reasonable amount of speculation, and an occasional characteristic aside. Although the reader may feel exasperated at times and find it necessary to read the whole work at least twice, he will do well to remember what the alternative might be. Instead he might have two or three volumes of a "comprehensive treatise," by a dozen authors, which he might never find time to read through once, and which was so fragmented that no single contributor found himself in a position to write about the subject as a whole.

Throughout the book the author has in mind the question: how do changes in the cell nucleus bring about changes in the biochemical behaviour of the cell as a whole? He looks for evidence in the genetical behaviour of a variety of organisms, including man, and inevitably discusses the confused picture presented by micro-organisms, especially bacteria, in which virus infection becomes at times indistinguishable from acquired changes in heredity. In this connection Haldane suggests that the attempt to purify a gene might well begin with a bacteriophage.

His tentative conclusion, expressed as a working hypothesis, is that a gene, meaning by this a molecule (or a few molecules) of deoxyribose nucleic acid or of protein (or perhaps both) located on a chromosome, catalyzes the formation of a relatively small number of molecules of a substance of low molecular weight (e.g. a vitamin) which is concerned with the synthesis of large molecules with catalytic properties. He calculates that the synthetic activity of the nucleus might for this reason be extremely low and consequently difficult to measure with the methods at present available to biochemists.

These and other speculations, such as the suggestion that the evolution of the surviving forms of life may have involved the replacement of old genes by groups of their more specialized descendants rather than the